

**BUFFER SEMAPHORE SYSTEM AND METHOD****ABSTRACT OF THE INVENTION**

5 A system and method are provided for securely buffering  
overhead messages in a network-connected integrated circuit. The  
method comprises: receiving messages including overhead bytes; collecting  
overhead bytes; creating a first overhead message from the collected  
overhead bytes; establishing a overhead message semaphore; and, saving  
the first overhead message until it is read, in response to the semaphore.  
10 Saving the first overhead message until it is read means not overwriting  
the first overhead message stored in the buffer until the buffer is read.  
Not overwriting the first overhead message stored in the buffer until the  
buffer is read includes the substeps of: setting the semaphore to the lock  
state; and, in response the semaphore lock state, not writing collected  
15 overhead bytes for a second overhead message to the buffer

The method further comprises: reading the first overhead  
message in the buffer; collecting new overhead bytes; creating a second  
overhead message from the collected new overhead bytes; and, saving the  
second overhead message until it is read. Collecting overhead bytes for  
20 the second overhead message includes the substeps of: setting the  
semaphore to the unlock state following the reading of the first overhead  
message; and, collecting a first number of overhead bytes from a second  
number of frames.